

REMARKS

Status of Claims

Claims 8 and 9 remain pending and under examination on the merits in the present application. Claim 1 has been withdrawn pursuant to an election by Applicants (re-affirmed hereinafter). Claims 2-7 remain cancelled as because they are directed to an invention elected for prosecution in the recently allowed parent application (i.e., U.S. Application No. 10/117,859, filed April 8, 2002 and issued as Pat. No. 6,740,620).

Election

On September 23, 2004, the Examiner made a telephonic restriction requirement and required election from among the following two groups of claims:

Group I: (Claim 1) directed to a catalyst; and

Group II: (Claim 8 and 9) directed to methods for producing an unsaturated carboxylic acid and an unsaturated nitrile, respectively, using a catalyst produced by the recited process.

Applicants hereby confirm the previous telephonic election of Group II (Claims 8-9) for further prosecution at this time, without traverse and without relinquishing or limiting their right to file one or more later divisional applications directed to the non-elected Group I and/or petition for rejoinder upon allowance of one or more of the elected claims.

Priority

On pages 3-4 of the first Office Action, the Examiner has required that a cross-reference to related applications be added to the present specification pursuant to 37 CFR § 1.78(a). It is respectfully noted that the Preliminary Amendment and Information Disclosure Statement which was submitted concurrently with the filing of the present divisional application did, in fact, include amendments to the as-filed specification to add such a cross-reference statement. Additionally, amendments to the specification were also made to correct an error relating to the list of possible constituents for element "X" in the catalyst formula. More particularly, the halogens Cl (chlorine), F (fluorine) and I (iodine), were deleted from the description of element "X".

A copy of the aforesaid Preliminary Amendment and Information Disclosure Statement which was filed concurrently with the present divisional patent application, is attached hereto for the Examiner's convenient reference, along with a copy of the date-stamped return postcard receipt evidencing its receipt by the US Patent Office. Acknowledgement and entry of the Amendments to the Specification made therein are hereby respectfully requested.

It is believed that the priority issue raised by the Examiner has been addressed by the foregoing explanation and the previously filed Preliminary Amendment and Information Disclosure Statement. However, if any further action on the part of Applicants is required, the Examiner is cordially invited to telephone Applicants' attorney to discuss same.

Information Disclosure Statement

In addition to the aforementioned amendments to the specification, an Information Disclosure Statement was submitted in the aforesaid Preliminary Amendment and Information Disclosure Statement, filed concurrently with the present divisional patent application. Since the first Office Action does not include any acknowledgment or commentary relating to the Information Disclosure Statement, Applicants and their attorney hereby respectfully request that the documents cited in the Information Disclosure Statement be considered and officially made of record in the present divisional application based upon the attached copy of the previously filed Preliminary Amendment and Information Disclosure Statement.

Arrangement of Specification

On page 4 of the Office Action, the Examiner has requested that Applicants conform the present specification to the requirements set forth in MPEP § 608.01(a) and 37 C.F.R. § 1.77 (presumably, relating to the section headings). By the foregoing amendments to the specification, appropriate section headings have been added thereto. Thus, it is believed that Applicants have complied with the Examiner's request in this regard.

Claim Rejections Under 35 U.S.C. § 112, second paragraph

Also on page 4 of the Office Action, elected Claims 8 and 9 have been rejected, under 35 U.S.C. § 112, second paragraph, based on the Examiner's determination that the term "seed" is indefinite because it is unclear what the "seed" recited therein comprises. Applicants traverse this rejection for the reasons which follow.

As is stated concisely in paragraph [0022] of the present specification (published version, US 2004/0176244), "[i]t has now been found that the orthorhombic phase (phase B) can be prepared selectively, in quantitative yield, by seeding the catalyst precursor solution with orthorhombic phase (phase B) material." Each of Claims 8 and 9 specify that the seed is "an orthorhombic phase mixed metal oxide" seed. Furthermore, Paragraphs [0049] to [0059] of the present specification consistently and effectively identify the "seed" as a mixed metal oxide which is compositionally the same as the mixed metal oxide of the catalyst of the present invention (see paragraphs [0036] to [0038] and the claims). In addition, Example 1 of the present application reinforces that the "seed" and the catalyst are both comprised of compositionally similar mixed metal oxides (i.e., Mo-V-Te-Nb-based oxides). Thus, it is respectfully submitted that, based upon the general knowledge in the relevant art and the disclosure provide in the present specification at paragraphs [0022] and [0049] to [0059] and the examples, persons of ordinary skill in the art would understand the term "seed" to be suitably comprised of similar (but not necessarily identical) composition to the mixed metal oxide precursor to which it is to be added, to ultimately form the preferred orthorhombic phase mixed metal oxide catalyst.

Based upon the foregoing discussion, it is respectfully submitted that neither of Claims 8 or 9 are indefinite since the term "seed" and its composition are easily determinable by persons of ordinary skill in the art based upon the present disclosure. In view of the foregoing comments and discussion, withdrawal of the rejection of Claims 8 and 9, under 35 U.S.C. § 112, second paragraph, is hereby respectfully requested.

Claim Rejections Under 35 U.S.C. § 103(a)

Claim 8 has been rejected, under 35 U.S.C. § 103(a), as being obvious and unpatentable in view of Ushikubo et al., U.S. 5,380,933 (see pages 4-6 of the Office Action) and Claim 9 has been rejected, under 35 U.S.C. § 103(a), as being obvious and unpatentable in view of Ushikubo et al., U.S. 5,281,745 (see pages 6-7 of the Office Action), based on the Examiner's assertion that the step of admixing a seeding effective amount of an orthorhombic phase mixed metal oxide seed, substantially free of hexagonal phase mixed metal oxide, with said solution to form a seeded solution, as recited in each of independent Claims 8 and 9 of the present application, is equivalent to the teaching of both of the Ushikubo et al. references (i.e., U.S. 5,380,933 and U.S. 5,281,745) to add a solution of ammonium niobium oxalate to a catalyst precursor mixture. It is respectfully submitted that the Examiner is incorrect.

More particularly, the addition of ammonium niobium oxalate to a mixture of other precursor compounds, as taught in both Ushikubo et al. references, is merely a required step for the formation of a precursor solution containing all of the desired elemental constituents (i.e., Mo-V-Te-Nb) for the catalyst formed therefrom after calcining. This step is in no way equivalent to addition of an orthorhombic phase mixed metal oxide seed to a complete precursor solution which already contains all of the elemental constituents of the final intended mixed metal oxide catalyst. Additionally, it is respectfully submitted that a solution of ammonium niobium oxalate is in no way similar or equivalent to an orthorhombic phase mixed metal oxide seed as disclosed and discussed in the present specification. As discussed in the background portion of the present specification (see paragraphs [0003] to [0006] and paragraphs [0012] to [0014], respectively), the catalysts taught in the Ushikubo et al. references are of mixed phases (i.e., both the preferred orthorhombic and the undesired hexagonal phases), whereas the catalysts used in the process of the present invention as recited in Claim 8, which is an orthorhombic phase mixed metal oxide catalyst.

Based on the foregoing explanation and discussion, it is respectfully submitted that the disclosures of Ushikubo et al. U.S. 5,380, 933 and Ushikubo et al. U.S. 5,281,745, each fail to render the present invention, as recited in Claims 8 and 9, respectively, obvious because each fails entirely to suggest a seeding step, the use of an orthorhombic phase seed, or anything even

vaguely equivalent thereto. Thus, withdrawal of the rejections of Claims 8 and 9, under 35 U.S.C. § 103(a) is hereby respectfully requested.

Request for Rejoinder of Withdrawn Claim 1

Pursuant to MPEP §§ 809.03 and 821.04, claims having a linking inventive concept, such as a claim directed to a product and a claim directed a use of said product, are entitled to examination in the same patent application and, therefore, where one such claim is found allowable, Applicants are entitled to rejoinder and examination on the merits of the withdrawn claim(s) also relating to the linking inventive concept. The present application includes elected Claims 8 and 9, which are drawn to a process using the inventive product (i.e., an orthorhombic phase mixed metal oxide catalyst), as well as withdrawn product Claim 1, which is directed to the inventive product (i.e., an orthorhombic phase mixed metal oxide catalyst). It is submitted that if either of Claims 8 and 9 are found allowable, then Applicants are entitled to rejoinder and examination of withdrawn Claim 1.

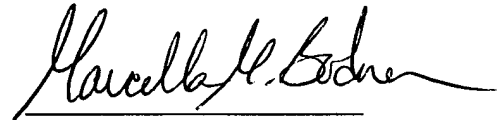
In addition, as discussed in the background portion of the present specification, neither of the two references cited by the Examiner (i.e., Ushikubo et al. US 5,380,933 and Ushikubo et al. US 5,281,745) as the bases for rejecting Claims 8 and 9 teach or suggest a method for preparing a single phase (i.e., orthorhombic phase) mixed metal oxide, but rather the catalyst taught therein produce multi-phase mixed metal oxides (i.e., having at least some of both orthorhombic and hexagonal phases). The present invention, the other hand, as recited in independent Claim 1, is an orthorhombic phase mixed metal oxide catalyst.

In the foregoing circumstances, it is respectfully requested that, in the event either of Claims 8 or 9 are found allowable, that Claim 1 be rejoined in the present application and examined on the merits and found allowable.

CONCLUSION

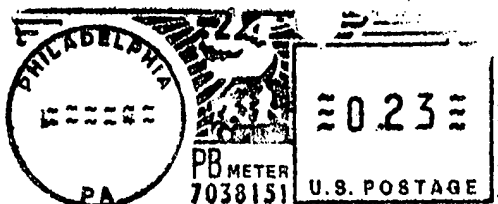
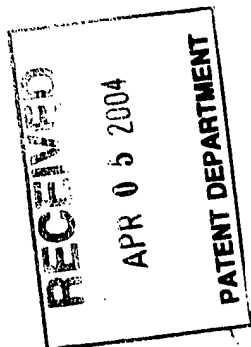
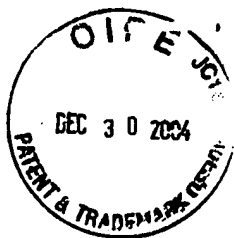
No fees are believed to be due in connection with the submission of this Amendment. If, however, any such fees, including petition and extension fees, are due in connection with the submission of this Amendment, the Commissioner is hereby authorized to charge such fees to **Deposit Account No. 18-1850**. In the meantime, please direct all future correspondence relating to the present application to the undersigned attorney.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Marcella M. Bodner", written over a horizontal line.

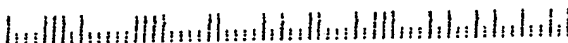
Marcella M. Bodner
Attorney for Applicants
Registration No. 46,561
Telephone: (215) 592-3025

Date: **December 28, 2004**
ROHM AND HAAS COMPANY
100 Independence Mall West
Philadelphia, PA 19106-2399



Rohm and Haas Company
ATTN: PATENT DEPARTMENT
100 Independence Mall West
Philadelphia, Pa. 19106

03



CA 4-5-04

In connection with the below identified patent application, we hereby acknowledge receipt of:

22581 U.S. PTO
10/807069

Utility Patent Application Transmittal
Fee Transmittal (in duplicate)
Photocopy of Original Application
Photocopy of Declaration and Power of Attorney
Preliminary Amendment and IDS with completed form PTO-1449 (in duplicate)
Certificate of Express Mailing



032304

DN. A01224A Ser. No. Filed Herewith

Certificate of Mailing: ^{Express} ☒ Yes ☐ No

Date Mailed 3/23/2004 Initials mmB/yk

FORM 13663 6/94

U.S. Express Mail Label No: EL973372489US

DN A01224A



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Docket Number: A01224A

MMB/yv

In re application of:

Leonard Edward Bogan, Jr. et al.

Serial No.: Not yet assigned

Filed: Herewith

For: SINGLE CRYSTALLINE PHASE
CATALYST

****This is a divisional of U.S. Serial No.**

10/117,859 filed April 8, 2002** X

MAIL STOP: PATENT APPLICATION

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Group Art Unit: Not yet assigned

Examiner: Not yet assigned

*COPY of previously
submitted paper
in 10/807,069*

**PRELIMINARY AMENDMENT AND
INFORMATION DISCLOSURE STATEMENT**

Sir:

Prior to examination of the merits, please amend the above-identified application as follows:

AMENDMENTS TO THE SPECIFICATION begin on page 2 of this paper.

AMENDMENTS TO THE CLAIMS are reflected in the listing of claims which begins on page 5 of this paper.

INFORMATION DISCLOSURE STATEMENT begins on page 8 of this paper.

REMARKS begin on page 9 of this paper.

AMENDMENTS TO THE SPECIFICATION

Please add the following new heading and new paragraph immediately after the title on page 1 of the present specification, in accordance with 37 C.F.R. §1.78:

Cross Reference to Related Patent Applications

This non-provisional application is a divisional of non-provisional U.S. Patent Application No. 10/117,859 filed April 8, 2002, now allowed, benefit of which is claimed under 35 U.S.C. §120 and which in turn claims benefit under 35 U.S.C. §119(e) of U.S. provisional Application No. 60/286,235 filed April 25, 2001, priority benefit of which is also claimed for the present divisional application.

Please replace the paragraph which begins on page 4, line 30 and ends on page 5, line 2, with the following replacement paragraph:

wherein A is at least one element selected from the group consisting of Mo and W, N is at least one element selected from the group consisting of Te and Se, and X is at least one element selected from the group consisting of Nb, Ta, Ti, Al, Zr, Cr, Mn, Fe, Ru, Co, Rh, Ni, Pt, Bi, B, In, As, Ge, Sn, Li, Na, K, Rb, Cs, Fr, Be, Mg, Ca, Sr, Ba, Ra, Hf, Pb, P, Pm, Eu, Gd, Dy, Ho, Er, Tm, Yb, Lu, Au, Ag, Re, Pr, Zn, Ga, Pd, Ir, Nd, Y, Sm, Tb, Br, Cu[[,]] and Sc, ~~Cl, F and I,~~

Please replace the paragraph on page 5, lines 9-14, with the following replacement paragraph:

wherein A is at least one element selected from the group consisting of Mo and W, N is at least one element selected from the group consisting of Te, Se and Sb, and X is at least one element selected from the group consisting of Nb, Ta, Ti, Al, Zr, Cr, Mn, Fe, Ru, Co, Rh, Ni, Pt, Bi, B, In, Ce, As, Ge, Sn, Li, Na, K, Rb, Cs, Fr, Be, Mg, Ca, Sr, Ba, Ra, Hf, Ag, Pb, P, Pm, Eu, Gd, Dy, Ho, Er, Tm, Yb, Lu, Au, Ag, Re, Pr, Zn, Ga, Pd, Ir, Nd, Y, Sm, Tb, Br, Cu[[,]] and Sc, ~~Cl, F and I~~,

Please replace the paragraph on page 6, lines 4-9, with the following replacement paragraph:

wherein A is at least one element selected from the group consisting of Mo and W, N is at least one element selected from the group consisting of Te, Sb and Se, and X is at least one element selected from the group consisting of Nb, Ta, Ti, Al, Zr, Cr, Mn, Fe, Ru, Co, Rh, Ni, Pt, Bi, B, In, As, Ge, Sn, Li, Na, K, Rb, Cs, Fr, Be, Mg, Ca, Sr, Ba, Ra, Hf, Pb, P, Pm, Eu, Gd, Dy, Ho, Er, Tm, Yb, Lu, Au, Ag, Re, Pr, Zn, Ga, Pd, Ir, Nd, Y, Sm, Tb, Br, Cu[[,]] and Sc, ~~Cl, F and I~~; and

Please replace the paragraph on page 6, lines 18-23, with the following replacement paragraph:

wherein A is at least one element selected from the group consisting of Mo and W, N is at least one element selected from the group consisting of Te and Se, and X is at least one element selected from the group consisting of Nb, Ta, Ti, Al, Zr, Cr, Mn, Fe, Ru, Co, Rh, Ni, Pt, Bi, B, In, As, Ge, Sn, Li, Na, K, Rb, Cs, Fr, Be, Mg, Ca, Sr, Ba, Ra, Hf, Pb, P, Pm, Eu, Gd, Dy, Ho, Er, Tm, Yb, Lu, Au, Ag, Re, Pr, Zn, Ga, Pd, Ir, Nd, Y, Sm, Tb, Br, Cu[[,]] and Sc, ~~Cl, F and I~~; and

Please replace the paragraph which begins on page 7, line 29 and ends on page 8, line 2, with the following replacement paragraph:

wherein A is at least one element selected from the group consisting of Mo and W, N is at least one element selected from the group consisting of Te, Se and Sb, and X is at least one element selected from the group consisting of Nb, Ta, Ti, Al Zr, Cr, Mn, Fe, Ru, Co, Rh, Ni, Pt, Bi, B, In, Ce, As, Ge, Sn, Li, Na, K, Rb, Cs, Fr, Be, Mg, Ca, Sr, Ba, Ra, Hf, Pb, P, Pm, Eu, Gd, Dy, Ho, Er, Tm, Yb, Lu, Au, Ag, Re, Pr, Zn, Ga, Pd, Ir, Nd, Y, Sm, Tb, Br, Cu[[,]] and Sc, ~~Cl, F and I~~, and

Please replace the paragraph on page 8, lines 15-22, with the following replacement paragraph:

wherein A is at least one element selected from the group consisting of Mo and W, N is at least one element selected from the group consisting of Te, Se and Sb, and X is at least one element selected from the group consisting of Nb, Ta, Ti, Al Zr, Cr, Mn, Fe, Ru, Co, Rh, Ni, Pt, Bi, B, In, Ce, As, Ge, Sn, Li, Na, K, Rb, Cs, Fr, Be, Mg, Ca, Sr, Ba, Ra, Hf, Pb, P, Pm, Eu, Gd, Dy, Ho, Er, Tm, Yb, Lu, Au, Ag, Re, Pr, Zn, Ga, Pd, Ir, Nd, Y, Sm, Tb, Br, Cu[[,]] and Sc, ~~Cl, F and I~~, wherein A, V, M and X are present in such amounts that the atomic ratio of A : V : N : X is a : b : c : d, and

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the present application:

1. (Currently Amended) A catalyst component which consists of the orthorhombic phase of a mixed metal oxide of the formula



wherein A is at least one element selected from the group consisting of Mo and W, N is at least one element selected from the group consisting of Te and Se, and X is at least one element selected from the group consisting of Nb, Ta, Ti, Al, Zr, Cr, Mn, Fe, Ru, Co, Rh, Ni, Pt, Bi, B, In, Ce, As, Ge, Sn, Li, Na, K, Rb, Cs, Fr, Be, Mg, Ca, Sr, Ba, Ra, Hf, Pb, P, Pm, Eu, Gd, Dy, Ho, Er, Tm, Yb, Lu, Au, Ag, Re, Pr, Zn, Ga, Pd, Ir, Nd, Y, Sm, Tb, Br, Cu[[,]] and Sc, Cl, F and I,

wherein, when $a = 1$, $b = 0.01$ to 1 , $c = 0.01$ to 1 , $d = 0.01$ to 1 and e is dependent on the oxidation state of the other elements.

Claims 2-7 (Cancelled).

8. (Currently Amended) A process for producing an unsaturated carboxylic acid which comprises subjecting an alkane, or a mixture of an alkane and an alkene, to a vapor phase catalytic oxidation reaction in the presence of an orthorhombic phase mixed metal oxide catalyst, produced by ~~[[the]] a process of claim 2.~~ comprising:

- (a) admixing compounds of elements A, V, N and X and at least one solvent to form a solution,

wherein A is at least one element selected from the group consisting of Mo and W, N is at least one element selected from the group consisting of Te, Se and Sb, and X is at least one element selected from the group consisting of Nb, Ta, Ti, Al, Zr, Cr, Mn, Fe, Ru, Co, Rh, Ni, Pt, Bi, B, In, Ce, As, Ge, Sn, Li, Na, K, Rb, Cs, Fr, Be, Mg, Ca,

Sr, Ba, Ra, Hf, Pb, P, Pm, Eu, Gd, Dy, Ho, Er, Tm, Yb, Lu, Au, Ag, Re, Pr, Zn, Ga, Pd, Ir, Nd, Y, Sm, Tb, Br, Cu and Sc,

wherein A, V, N and X are present in such amounts that the atomic ratio of A : V : N : X is a : b : c : d, and

wherein, when a = 1, b = 0.01 to 1, c = 0.01 to 1 and d = 0.01 to 1;

- (b) admixing a seeding effective amount of an orthorhombic phase mixed metal oxide seed, substantially free of hexagonal phase mixed metal oxide, with said solution to form a seeded solution,
- (c) removing said at least one solvent from said seeded solution to form a catalyst precursor; and
calcining said catalyst precursor to obtain said orthorhombic phase mixed metal oxide catalyst.

9. (Currently Amended) A process for producing an unsaturated nitrile which comprises subjecting an alkane, or a mixture of an alkane and an alkene, and ammonia to a vapor phase catalytic oxidation reaction in the presence of an orthorhombic phase mixed metal oxide catalyst, produced by ~~[[the]] a process of claim 3,~~ comprising:

- (a) admixing compounds of elements A, V, N and X and at least one solvent to form a solution,
wherein A is at least one element selected from the group consisting of Mo and W, N is at least one element selected from the group consisting of Te and Se, and X is at least one element selected from the group consisting of Nb, Ta, Ti, Al, Zr, Cr, Mn, Fe, Ru, Co, Rh, Ni, Pt, Bi, B, In, Ce, As, Ge, Sn, Li, Na, K, Rb, Cs, Fr, Be, Mg, Ca, Sr, Ba, Ra, Hf, Pb, P, Pm, Eu, Gd, Dy, Ho, Er, Tm, Yb, Lu, Au, Ag, Re, Pr, Zn, Ga, Pd, Ir, Nd, Y, Sm, Tb, Br, Cu and Sc,
wherein A, V, N and X are present in such amounts that the atomic ratio of A : V : N : X is a : b : c : d, and
wherein, when a = 1, b = 0.01 to 1, c = 0.01 to 1 and d = 0.01 to 1;

(b) admixing a seeding effective amount of an orthorhombic phase mixed metal oxide seed, substantially free of hexagonal phase mixed metal oxide, with said solution to form a seeded solution,

(c) removing said at least one solvent from said seeded solution to form a catalyst precursor; and

calcining said catalyst precursor to obtain said orthorhombic phase mixed metal oxide catalyst.

INFORMATION DISCLOSURE STATEMENT

Pursuant to 37 C.F.R. §§ 1.97 and 1.98 and MPEP §§ 609 I.A.2. and 609 D., Applicants hereby submit the attached Form PTO-1449, in duplicate, which lists thereon all of the documents officially cited to the United States Patent Trademark Office and officially made of record in connection with Applicants' co-pending parent application, U.S. Serial No. 10/117,859, filed April 8, 2002. Pursuant to MPEP § §§ 609 I.A.2. and 609 D., since the present application is a divisional of parent application U.S. Serial No. 10/117,859 and all of the documents listed on the attached Form PTO-1449 were officially considered and made of record in the parent application, it is believed that the attached Form PTO-1449 is sufficient to enable the Examiner in charge of the present divisional application to consider and make officially of record all of the documents listed thereon. Thus, no copies of any of the documents listed on the attached Form PTO-1449 are being submitted to the United States Patent and Trademark Office.

The filing of this Information Disclosure Statement shall not be construed to mean that a search has been made, nor that no other material information, as defined in 37 C.F.R. § 1.56(a), exists. Furthermore, inclusion of a document on the attached Form PTO-1449 is not intended to constitute an admission that any document so disclosed is "prior art" with respect to the present invention unless specifically so stated herein.

In the foregoing circumstances, it is respectfully requested that each of the documents listed on the attached Form PTO-1449 be officially made of record in the present divisional application and printed on the face of any patent which issues therefrom.

REMARKS

Initially, it is noted that this Preliminary Amendment and Information Disclosure Statement is in the newly approved revised format of amendments, such that a complete listing of claims is included and each section begins on a separate page of this paper.

Claims 2-7 have been cancelled because they are directed to an invention elected for prosecution in the recently allowed parent application (i.e., U.S. Application No. 10/117,859, filed April 8, 2002). Accordingly, Claims 1, 8 and 9 remain pending in the present divisional patent application.

By the foregoing amendments to the specification and to Claim 1, an error relating to the possible constituents for element "X" in the catalyst formula has been corrected. More particularly, the halogens Cl (chlorine), F (fluorine) and I (iodine), have been deleted from the description of element "X".

Also by the foregoing amendments to Claims 8 and 9, Claim 8 has been amended to include the features of cancelled Claim 2 and Claim 9 has been amended to include the features of cancelled Claim 3.

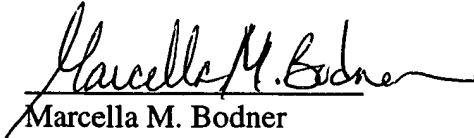
In addition, the specification of the present divisional application has been amended by the foregoing amendments, to include the required cross-reference to related applications, whereby the present divisional application claims priority benefit from the non-provisional parent application under 35 U.S.C. § 120, as well as from the provisional application relied upon by the parent application under 35 U.S.C. § 119(e).

In view of the foregoing remarks and explanation, it is believed that no new matter has been introduced into the present application by the foregoing amendments.

Accordingly, early and favorable action on the present application is hereby requested.

Respectfully submitted,

Date: March 19, 2003
ROHM AND HAAS COMPANY
100 Independence Mall West
Philadelphia, PA 19106-2399


Marcella M. Bodner
Attorney for Applicants
Registration No. 46,561
Telephone: (215) 592-3025



Sheet 1 of 2

LIST OF ART CITED BY APPLICANT

(Use several sheets if necessary)

Atty Docket No. A01224A	Serial No. Not yet assigned
Applicant Leonard Edward Bogan, Jr., et al.	
Filing Date Herewith	Group Not yet assigned

U.S. Patent Documents

EXAMINER INITIALS		DOCUMENT NUMBER	DATE	NAME	Class/Subclass	FILING DATE IF APPROPRIATE
	AA	5,281,745	1/25/1994	Ushikubo, et al.		
	AB	5,380,933	1/10/1995	Ushikubo, et al.		
	AC	4,678,657	7/07/1987	Sood, et al.		
	AD	5,462,009	10/31/1995	Garrigus, D.F.		
	AE	US-6504053	01/2003	Chaturvedi, et al.		
	AF	US-2002/0183199A1	12/2002	Bogan, Jr.		
	AG	6,171,571	01/09/01	Bedard, et al.		
	AH	US-6310141	10/2001	Karim, et al.		
	AI	US-6383977	05/2002	Karim, et al.		
	AJ	US-6472552	10/2002	Bogan, Jr.		
	AK					

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	Class/Subclass	Translation Yes/No
	AL	0573193B1	12/08/1993	European		
	AM	7-53448	2/1995	Japan		
	AN					
	AO					

OTHER ART (Including Author, Title, Date, Pertinent Patents, etc.)

	AP	Translation of Japanese Laid-Open Patent Application No. 6-228073 (8/16/1994)
	AR	Translation of Japanese Laid-Open Patent Application No. 10-330343 (12/15/1998)
	AS	Translation of Japanese Laid-Open Patent Application No. 11-43314 (2/16/1999)

Examiner

Date Considered

*EXAMINER: Initial reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not conformance and not considered. Include copy of this form with next communication to applicant.

Rohm and Haas Company Modified Form PTO 1449

LIST OF ART CITED BY APPLICANT

(Use several sheets if necessary)

Atty Docket No. A01224A	Serial No. Not yet assigned
Applicant Leonard Edward Bogan, Jr., et al.	
Filing Date Herewith	Group Not yet assigned

U.S. Patent Documents

EXAMINER INITIALS		DOCUMENT NUMBER	DATE	NAME	Class/Subclass	FILING DATE IF APPROPRIATE
	AA					
	AB					
	AC					
	AD					
	AE					
	AF					
	AG					
	AH					
	AI					
	AJ					
	AK					

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	Class/Subclass	Translation Yes/No
	AJ	4-160007 A2	06/03/92	Japan		
	AK	4-160008 A2	06/03/92	Japan		
	AL	4-160009 A2	06/03/92	Japan		
	AM	9-118594 A2	05/06/1997	Japan		
	AN	7-078869 A2	3/20/1995	Japan		

OTHER ART (Including Author, Title, Date, Pertinent Patents, etc.)

AP	Watanabe, et al., "New Synthesis Route For Mo-V-Nb-Te Mixed Oxides Catalyst For Propane Ammoxidation", Applied Catalysis A: General 194-195 (2000) 479-485
AR	Abstract of Ortega, et al., "Control of Particle Morphology During Multicomponent Oxide Powder Generation By Spray Pyrolysis", J. Aerosol Sci. (1992), 23(Suppl. 1), S253-S256.
AS	Abstract of Hasegawa, et al., "Synthesis of Monodispersed Complex Fine Particles Using Seed Particles From A Metal Alkoxide Method", Kagaku Kogaku (1996), (60)5, 319-320.

Examiner

Date Considered

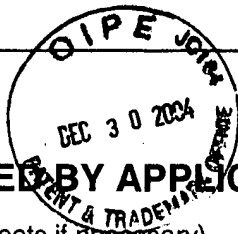
*EXAMINER: Initial reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not conformance and not considered. Include copy of this form with next communication to applicant.

APPLICANTS' COPY

Sheet 1 of 2

LIST OF ART CITED BY APPLICANT

(Use several sheets if necessary)



Atty Docket No. A01224A	Serial No. Not yet assigned
Applicant Leonard Edward Bogan, Jr., et al.	
Filing Date Herewith	Group Not yet assigned

U.S. Patent Documents

EXAMINER INITIALS		DOCUMENT NUMBER	DATE	NAME	Class/Subclass	FILING DATE IF APPROPRIATE
	AA	5,281,745	1/25/1994	Ushikubo, et al.		
	AB	5,380,933	1/10/1995	Ushikubo, et al.		
	AC	4,678,657	7/07/1987	Sood, et al.		
	AD	5,462,009	10/31/1995	Garrigus, D.F.		
	AE	US-6504053	01/2003	Chaturvedi, et al.		
	AF	US-2002/0183199A1	12/2002	Bogan, Jr.		
	AG	6,171,571	01/09/01	Bedard, et al.		
	AH	US-6310141	10/2001	Karim, et al.		
	AI	US-6383977	05/2002	Karim, et al.		
	AJ	US-6472552	10/2002	Bogan, Jr.		
	AK					

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	Class/Subclass	Translation Yes/No
	AL	0573193B1	12/08/1993	European		
	AM	7-53448	2/1995	Japan		
	AN					
	AO					

OTHER ART (Including Author, Title, Date, Pertinent Patents, etc.)

	AP	Translation of Japanese Laid-Open Patent Application No. 6-228073 (8/16/1994)
	AR	Translation of Japanese Laid-Open Patent Application No. 10-330343 (12/15/1998)
	AS	Translation of Japanese Laid-Open Patent Application No. 11-43314 (2/16/1999)

Examiner

Date Considered

*EXAMINER: Initial reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not conformance and not considered. Include copy of this form with next communication to applicant.

APPLICANTS' COPY

Sheet 2 of 2

LIST OF ART CITED BY APPLICANT

(Use several sheets if necessary)

Atty Docket No. A01224A	Serial No. Not yet assigned
Applicant Leonard Edward Bogan, Jr., et al.	
Filing Date Herewith	Group Not yet assigned

U.S. Patent Documents

EXAMINER INITIALS		DOCUMENT NUMBER	DATE	NAME	Class/Subclass	FILING DATE IF APPROPRIATE
	AA					
	AB					
	AC					
	AD					
	AE					
	AF					
	AG					
	AH					
	AI					
	AJ					
	AK					

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	Class/Subclass	Translation Yes/No
	AJ	4-160007 A2	06/03/92	Japan		
	AK	4-160008 A2	06/03/92	Japan		
	AL	4-160009 A2	06/03/92	Japan		
	AM	9-118594 A2	05/06/1997	Japan		
	AN	7-078869 A2	3/20/1995	Japan		

OTHER ART (Including Author, Title, Date, Pertinent Patents, etc.)

	AP	Watanabe, et al., "New Synthesis Route For Mo-V-Nb-Te Mixed Oxides Catalyst For Propane Ammoxidation", Applied Catalysis A: General 194-195 (2000) 479-485
	AR	Abstract of Ortega, et al., "Control of Particle Morphology During Multicomponent Oxide Powder Generation By Spray Pyrolysis", J. Aerosol Sci. (1992), 23(Suppl. 1), S253-S256.
	AS	Abstract of Hasegawa, et al., "Synthesis of Monodispersed Complex Fine Particles Using Seed Particles From A Metal Alkoxide Method", Kagaku Kogaku (1996), (60)5, 319-320.

Examiner

Date Considered

*EXAMINER: Initial reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not conformance and not considered. Include copy of this form with next communication to applicant.